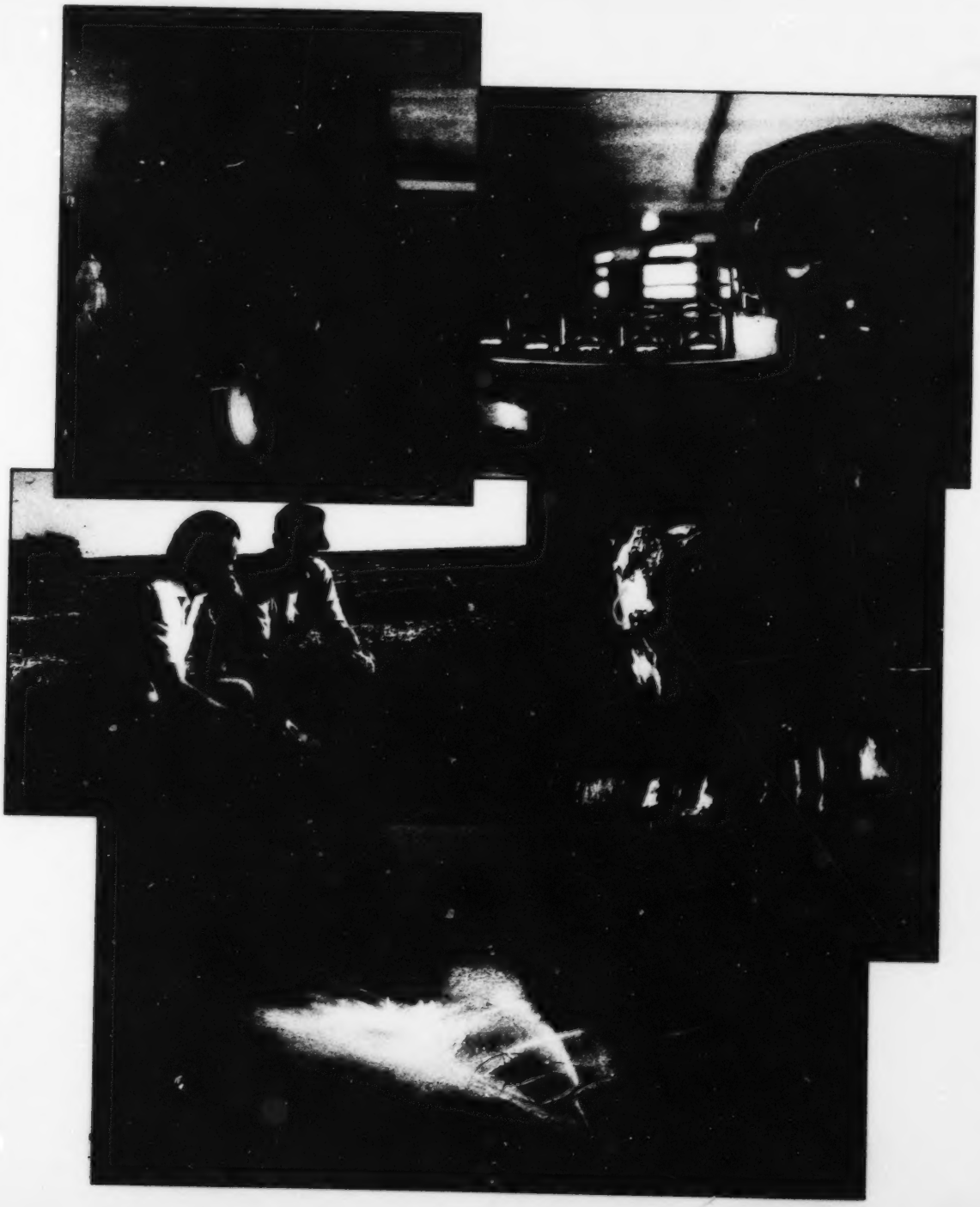
Saskatchewan Agriculture

Agriculture Development Fund



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Agriculture Development Fund Progress Report

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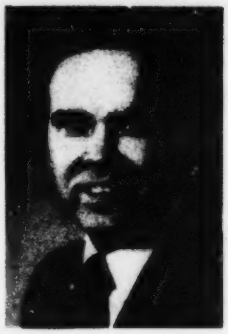
Minister's Message



I take pleasure in introducing the first annual progress report of the Saskatchewan Agriculture Development Fund Section (ADF).

Through the ADF, the Government of Saskatchewan has made a $200 million commitment to enable farmers to increase productivity and to strengthen Canada's position in world markets.

To compete in world markets Saskatchewan must stay in the forefront of agricultural research and development. Methods must be found to increase productivity and to reduce costs. This is the challenge the ADF was designed to meet.

The ADF is not only a government funding organization but a venture in which, for the first time, government, industry and producer groups are joining together to support agricultural research and development. With a five-year mandate, the ADF has made a significant beginning. In the first year of this program 313 research, development and demonstration projects were funded.

Encouraged by this initial response I am certain the ADF will meet the challenge for agriculture in Saskatchewan.

Hon. Grant Devine, Premier,
Minister of Agriculture

Manager's Message

Research and development are the backbone of progressive farming practices. New breeds, new ideas, new methods are all a result of initiatives such as the ADF.

In this its first year of operation, the ADF supported 205 demonstration projects and 108 research and development projects. Funds were also granted to individual irrigation projects, the POS (Protein, Oil and Starch) Plant, the Veterinary Infectious Disease Organization (VIDO) and the Saskatchewan Water Corporation.

With the administration in place, we are now developing a computer research information system and a communications strategy to deliver the project results to the farmer as soon as they are available. It is our goal not only to support research and development but to keep our farmers informed, for they are the ones who can implement the ideas.

The prospects for the future are bright but it will take the cooperation of government, research institutions, producers and agri-business, through programs such as the ADF, to meet the continued challenges facing agriculture in Saskatchewan.

John Taylor
Manager ADF

Introduction

The Agriculture Development Fund Section (ADF) was initiated by the Government of Saskatchewan in the spring of 1985 to centralize research, development and demonstration projects in the Department of Agriculture.

The five-year, $200-million program will support activities in areas such as crops and forages, irrigation, soils, livestock, land improvement, engineering, economics, extension, marketing, new product development and agricultural processing.

Applications, available through Saskatchewan Agriculture, are accepted four times a year: January 1, April 1, July 1, and October 1. Any individual or organization with an idea that will benefit agriculture in Saskatchewan is eligible to apply.

Applications are reviewed by five major technical [illegible]ittees: [illegible]. soils, livesto[illegible]n, [illegible]man resou[illegible]ees [illegible]ship of th[illegible] [illegible]d in this re[illegible] [illegible]e case o[illegible] [illegible]elopr[illegible]a [illegible]on[illegible]ed [illegible]alc[illegible] [illegible]proj[illegible]wa[illegible]fu[illegible] [illegible]Dir[illegible] base[illegible]lar[illegible] [illegible]he[illegible]nda[illegible]s [illegible]s [illegible]m[illegible] [illegible]o[illegible] [illegible]it[illegible]

Saskatchewan Agriculture's Director of Extension, Regional Directors, two farmer representatives from Regional Extension Councils and the Manager of ADF. Their decisions are also based on the technical reviews.

Applicants of approved projects are then invited to enter into a contract with Saskatchewan Agriculture.

The fund itself comprises $150 million from the provincial government, contributions of up to $20 million from industry and producer groups and a commitment of $30 million from the federal government through the Economic and Regional Development Agreement (ERDA), a sub-agreement on agriculture.

The Saskatchewan Agricultural Research Fund (SARF) providing grants to research projects which are unique and require new or additional funding, is also administered under the ADF. SARF's support of projects in progress meant an additional $431,900 for agricultural research in 1[illegible]. [illegible] SARF's support are outlined [illegible] it's annual report [illegible] legislature.

[illegible]

[illegible] activities during 1[illegible] major areas: cr[illegible] [illegible] livestock, [illegible] re[illegible]

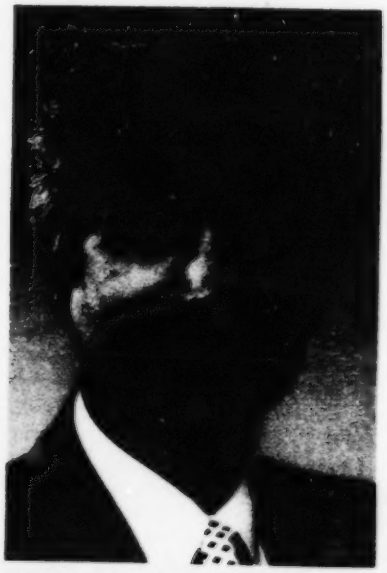
Meet the Management

John Taylor is the Agriculture Development Fund's manager. John is an agrologist who has worked with Saskatchewan Agriculture since 1979.

Connie Lambert, a research assistant for the Agriculture Development Fund, co-ordinates the research and development portion of ADF and administers ERDA projects.

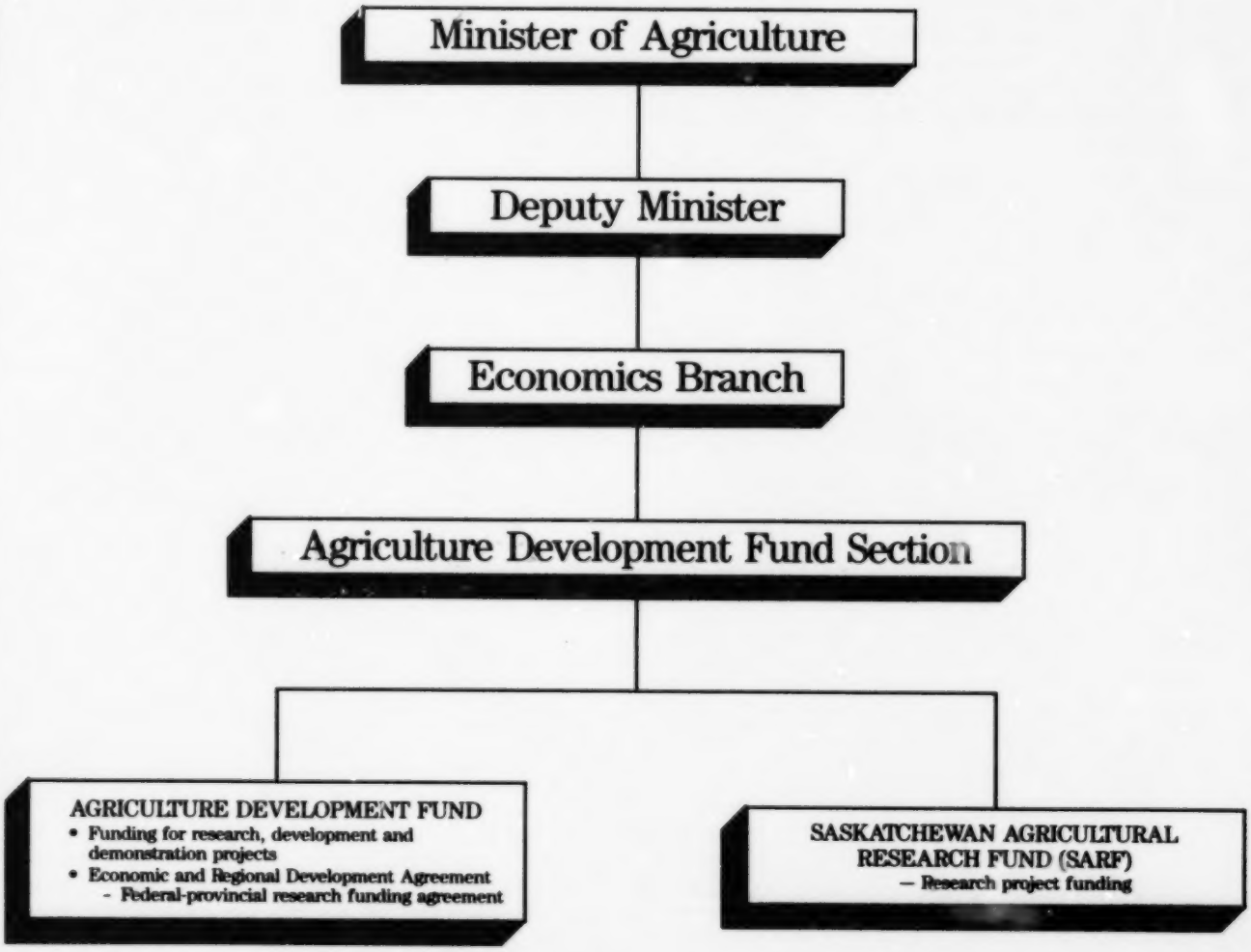
Doug Winsor is co-ordinator of the Economic and Regional Development Agreement (ERDA), which provides joint funding from the provincial and federal governments for agricultural research and development.

Brenda Machin administers the Saskatchewan Agricultural Research Fund (SARF) and co-ordinates the demonstration project portion of ADF.



Hamid Javed is Agriculture Development Fund's liaison with the University of Saskatchewan and is responsible for developing a computerized information system for ADF.

Organizational Chart

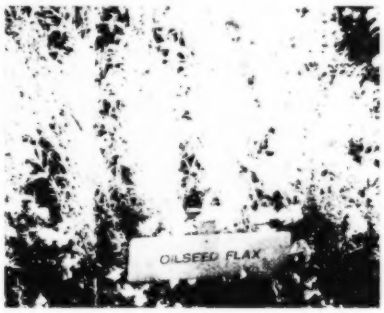

Minister of Agriculture
Deputy Minister
Economics Branch
Agriculture Development Fund Section
AGRICULTURE DEVELOPMENT FUND
• Funding for research, development and demonstration projects
• Economic and Regional Development Agreement
- Federal-provincial research funding agreement
SASKATCHEWAN AGRICULTURAL RESEARCH FUND (SARF)
— Research project funding

Crops

As the largest grain producing province in Canada, Saskatchewan recognizes the need for continued research and development of new crop varieties and cropping practices.

In 1985-86, through the ADF, 149 crop research, development and demonstration projects were funded.

Research at the Crop Development Centre resulted in the licensing of Vimy, a new flax variety, and Tupper, a new hulless barley. Development of semi-dwarf wheats was furthered and the salinity tolerance of a wide range of crops was measured.



Saskatchewan Agriculture also funds the demonstration portion of the "Grow With Canola" program, which aims to increase the average yield by 25 per cent. In 1985-86, 23 sites were established on 20 farms throughout Saskatchewan to demonstrate weed control, fertility, zero-tillage, sclerotinia control and variety comparisons.

The benefits of Intensive Cereal Management (ICM), an integrated cropping system developed in Europe, were also investigated.

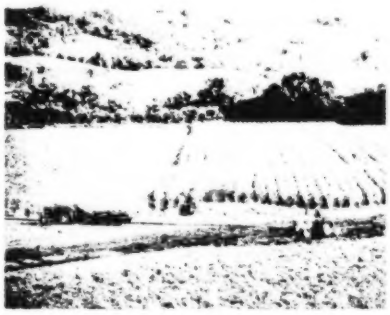
Insect and disease control continued with investigations into wheat blossom midge and sunflower insects. Control of scentless chamomile was also studied and the use of low volume spray applicators was tested.

An economic study was initiated to investigate the comparative advantage of wheat production in the province.

New ideas in horticulture are also being researched.

Experiments are being conducted using potato starch to separate clay from potash. A herbicide to control green foxtail in onion crops is being developed. And, methods of improving the rooting of 'Saskatoon' cuttings for propagation are being tested.

Orchard and vegetable variety tests have also been established at sites throughout the province.



Soils

The farmlands of Western Canada are precious — but fragile. Like any natural resource they must be conserved if they are to keep working for us.

Saskatchewan has a vast farmland base. 66 million acres or 41 per cent of the area of the province. Our farmers cultivate 48 million acres, about 12 per cent of the cultivated land in Canada, using most of the remaining land to pasture cattle.

Through the ADF, 71 soil research, development and demonstration projects were supported in 1985-86.

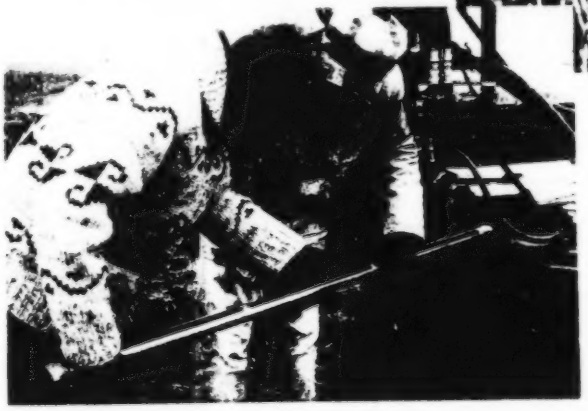
Soil surveying was stepped up to provide detailed information about agricultural land and its sensitivity to erosion, acidification, salinization and declining levels of organic matter.

A two-fold project is looking into the causes of soil salinity and means of controlling and reclaiming the saline soil.

Moisture and fertilizer management were investigated and demonstrated in the "Innovative Acres" project conducted jointly by the University of Saskatchewan, Saskatchewan Agriculture and 30 cooperating farmers.

Research, development and demonstration of practices such as extending crop rotations and reducing tillage were initiated in East Central Saskatchewan in a united effort between ADF and agri-business. Such cooperative ventures are taking research and development to all corners of the province.

Demonstrations highlighted fertilizer forms and placements, salt tolerances of crops, tillage systems and crop rotations.



Livestock

Livestock production is an integral part of Saskatchewan's economy. Last year the livestock industry generated farm cash receipts of $702 million. Funding of 81 research, development and demonstration projects through the ADF during 1985-86 helped to keep Saskatchewan farmers in the forefront of livestock production.

Since many producer management practices involve nutrition and reproduction, projects were initiated to investigate animal behavior, feeding system design, the value of various feedstuffs and livestock housing.

Some very timely projects studied livestock pest control, with emphasis on black flies and biotechnology related to insect control.

To enhance research and development in dairy production, Saskatchewan Agriculture and the Dairy Producers Co-operative Ltd. pooled their resources. Working together, their aim is to improve dairy cattle nutrition though an evaluation of feedstuffs, to make the industry more efficient by studying information available on management and feeding systems, and to remove sulphates from farm water supplies.

With advancements in computer and microchip technology, electronic identification (EID) of livestock is becoming a very real possibility. A variety of EID systems are presently being investigated.

In sheep production, a recent study concluded that intensive management can increase the number of lambs produced and, therefore, reduce per unit production costs.

In the development of feedstuffs, a study is being carried out to determine if Kochia, a wild annual that grows on saline areas throughout Southern Saskatchewan, can be used as a forage.

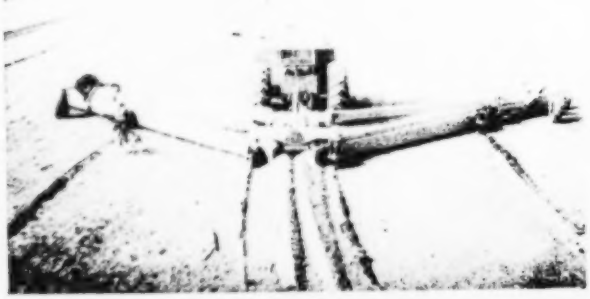
Irrigation

Irrigation is becoming a viable means of increasing land productivity for many Saskatchewan farmers. It gives ranchers a more reliable, more efficient source of feed, and allows farmers to diversify to meet market demands and world conditions.

During 1985-86 the ADF committed $2.9 million to irrigation development, research and demonstration in Saskatchewan.

A total of $2.25 million was provided to the Saskatchewan Water Corporation to support several irrigation projects mainly responsible for bringing water to the farm gate.

Actual development and demonstration of irrigation practices occurred in the Outlook area – the home of Saskatchewan Agriculture's Irrigation Branch. Funds totalling $782,000 initiated 778 irrigation projects. Of these, 170 were completed, representing the development of 16,138 acres of land.



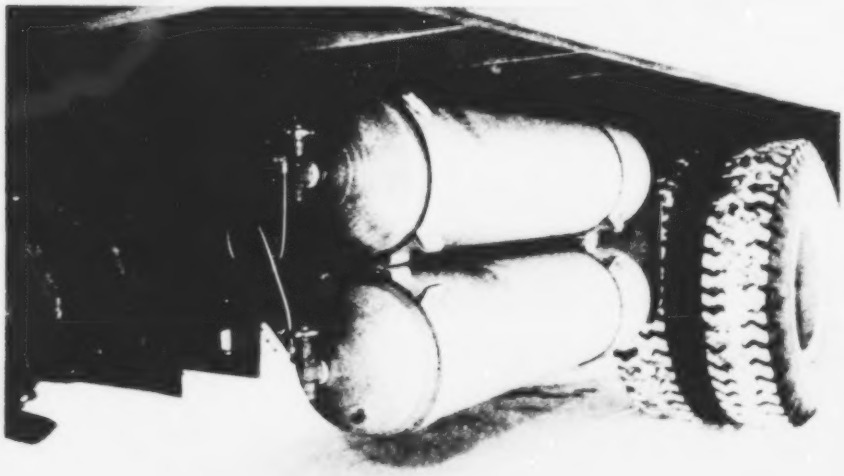
Engineering

Implementing new farming practices often calls for development of new equipment and fuel alternatives.

During 1985-86 Saskatchewan Agriculture through the ADF designated $1.03 million for the development of compressed natural gas (CNG) as a farm fuel alternative.

Up to six farms from various regions of the province are being supplied with CNG storage tanks and a compressor for fueling vehicles. Half-ton trucks, grain trucks and two-wheel diesel tractors on these farms are being converted to run on CNG so as to assess the performance and reliability of CNG as a fuel alternative on Saskatchewan farms.

The main demonstration portion of the project is to begin in the spring of 1987.



Human Resources

Economic conditions are placing renewed demands on farmers to develop innovative financial and management plans for their business.

In answer to this need, the ADF supported 18 projects focussing on development of management aids, a database and management and leadership skills during 1985-86.

Regional farm management staff working with agriculture representatives established groups of eight to 12 farm couples in each region of the province to pilot the "Upgrading Farm Management Skills" project. The groups met weekly to work with case examples in developing financial plans. The goal was to enable participants to develop actual working plans for their farms.

In cooperation with a provincial business, a two-day microcomputer training course for farmers was initiated to increase the level of computer literacy among Saskatchewan farmers.

Demonstrations

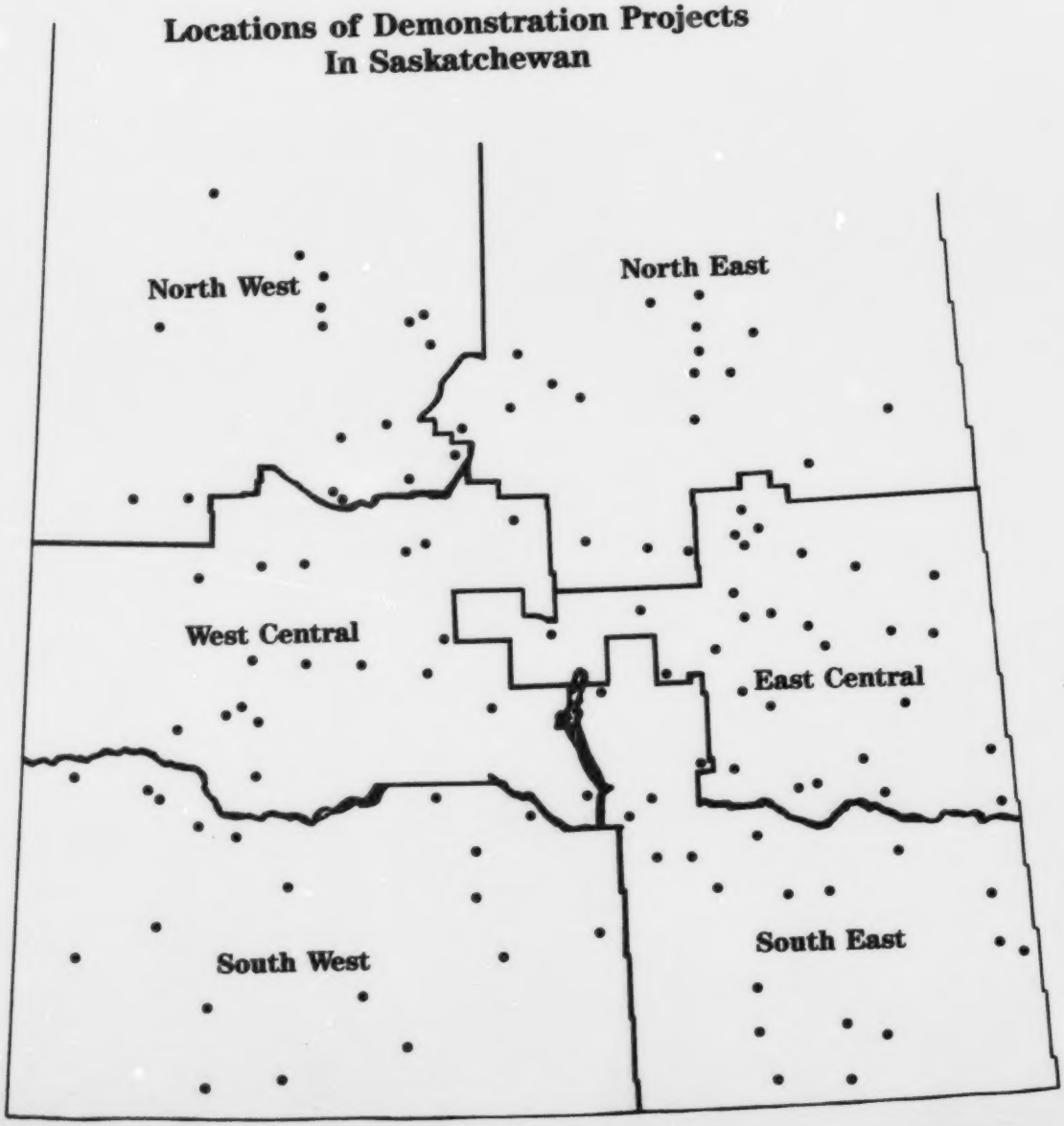
The demonstration portion of ADF is designed to bring research to the farm.

In this way farmers get hands-on experience with new varieties, new practices and new technologies. At the same time, the practical demonstrations allow researchers to evaluate results obtained in actual situations.

In this the ADF's first year of operation, the demonstration project portion of the fund has received enthusiastic response from producers throughout the province. A total of 205 projects were funded in the amount of $183,000 in 1985-86.

A detailed list of these projects appears in the Demonstration Project Summaries section of this report.

Locations of Demonstration Projects In Saskatchewan



Conclusion: A view to the future

There are many challenges facing Saskatchewan farmers today — increasing production costs, falling prices, and increased market competition are just a few. The ADF is Saskatchewan's response to these challenges.

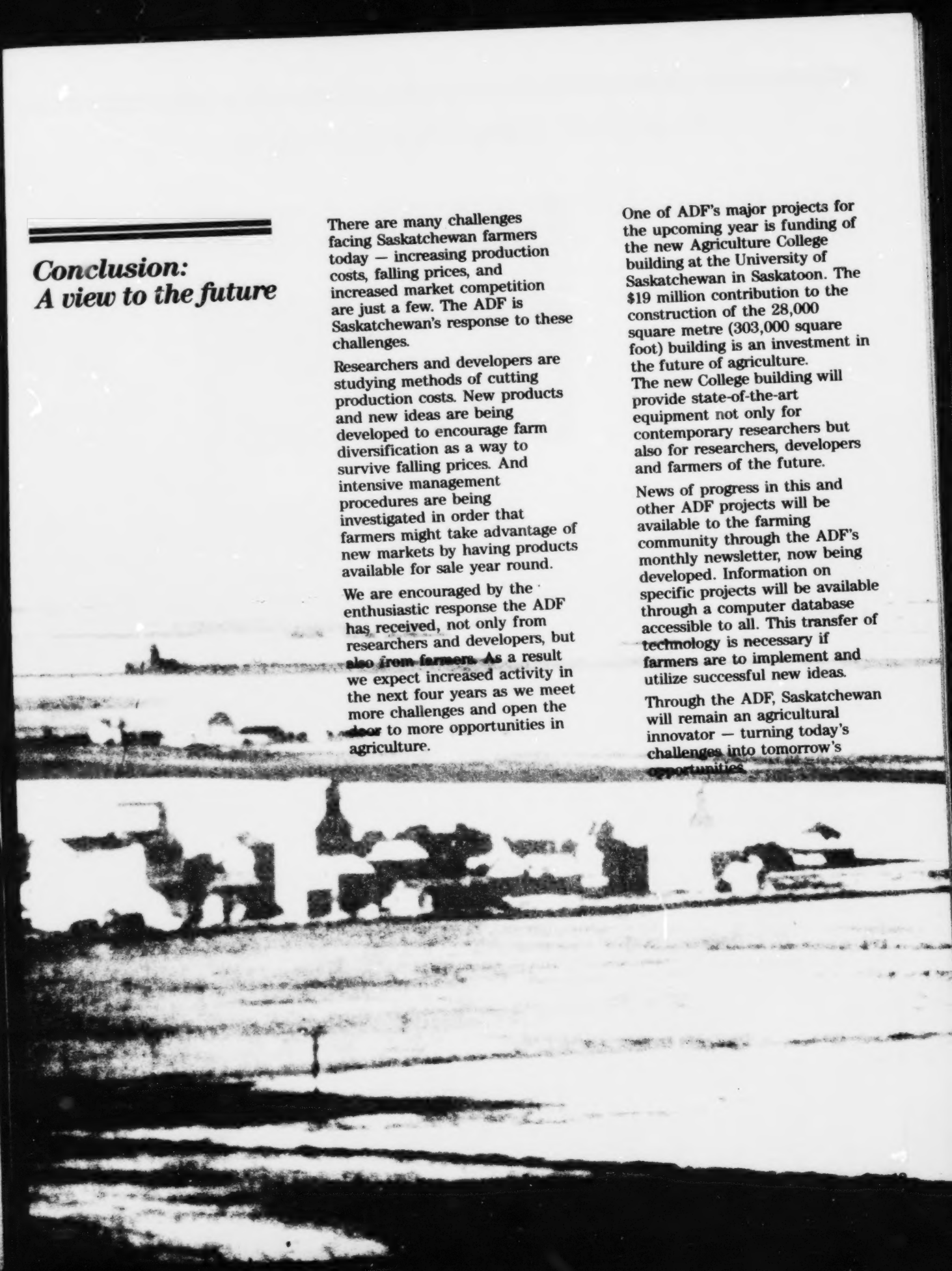
Researchers and developers are studying methods of cutting production costs. New products and new ideas are being developed to encourage farm diversification as a way to survive falling prices. And intensive management procedures are being investigated in order that farmers might take advantage of new markets by having products available for sale year round.

We are encouraged by the enthusiastic response the ADF has received, not only from researchers and developers, but also from farmers. As a result we expect increased activity in the next four years as we meet more challenges and open the door to more opportunities in agriculture.

One of ADF's major projects for the upcoming year is funding of the new Agriculture College building at the University of Saskatchewan in Saskatoon. The $19 million contribution to the construction of the 28,000 square metre (303,000 square foot) building is an investment in the future of agriculture. The new College building will provide state-of-the-art equipment not only for contemporary researchers but also for researchers, developers and farmers of the future.

News of progress in this and other ADF projects will be available to the farming community through the ADF's monthly newsletter, now being developed. Information on specific projects will be available through a computer database accessible to all. This transfer of technology is necessary if farmers are to implement and utilize successful new ideas.

Through the ADF, Saskatchewan will remain an agricultural innovator — turning today's challenges into tomorrow's opportunities.



Other Funding Agencies

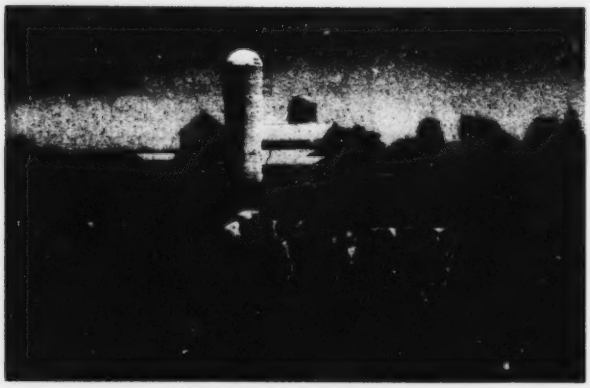
Cattle Marketing Deductions Fund

The Cattle Marketing Deductions Fund, administered through the Livestock Branch of Saskatchewan Agriculture, promotes beef and beef products in the province.

Funds are accumulated through a 50-cent check-off or levy for each animal offered for sale in Saskatchewan.

In 1985-86 the Cattle Marketing Deductions Fund collected about $500,000.

The cattle check-off is a voluntary deduction and producers may obtain a refund by providing proof of livestock sales.



Horned Cattle Fund

The Horned Cattle Fund, administered through the Livestock Branch of Saskatchewan Agriculture, promotes research and development in the livestock industry. Funds are collected by deducting $2.00 for each animal with horns that is offered for sale in the province.

In 1985-86 the Horned Cattle Fund collected about $200,000.

The Fund has established a beef herd in Melfort for research into beef herd management and pasture and forage use. Expenses incurred by the research project are paid from the sale of finished cattle.

Demonstration Project Summaries

Title/Objective	Project Manager/Cooperator Location or Region	Funding Agency	Funding 1985-86
CROPS			
Winter Wheat Project • demonstrate that winter wheat is superior to spring wheat production where land is well drained and shortness of season is a limiting factor	F.P. Howell B. Janostin, Hafford NW	ADF	455
Winter Wheat • demonstrate winter wheat production	M. Ruskowski E. Kaluzy, Perdue WC	ADF	692
Winter Wheat Production • demonstrate the suitability of winter wheat production on light textured level land where drought and shortness are limiting factors	F.P. Howell N.E. Postnikoff, Blaine Lake NW	ADF	270
Winter Wheat Production • demonstrate the suitability of winter wheat production on light textured rolling land where it may be difficult to maintain snow cover on the knolls	F.P. Howell D.J. Hawrysh, Hafford NW	ADF	547
Winter Wheat Production • demonstrate the successful production of winter wheat on stubble	L. Moats Bailey Brothers, Milden WC	ADF	132
Winter Wheat on Sandy Land • assess the yield potential of winter wheat on light textured soil	F.P. Howell D. & D. Herman, Radisson NW	ADF	570
Winter Wheat Demonstration • demonstrate winter wheat production on summerfallow	L. Stalwick W. Lewis, Chitek Lake IR	ADF	719
	L. Thomas, Leoville IR	ADF	719
	E. Bill, Leoville IR	ADF	719
Winter Wheat Demonstration • demonstrate winter wheat production on summerfallow	L. Stalwick F. Sasakamoose, Canwood IR	ADF	719
	M. Fineday, Spiritwood IR	ADF	719
Winter Wheat Demonstration • demonstrate winter wheat production on summerfallow	L. Stalwick F. Morin, Victoire IR	ADF	719
	L. Peekeekoot, Canwood IR	ADF	719
	P. Sakebow, Leoville IR	ADF	719

NOTE: EC = East Central
WC = West Central
SE = South East
SW = South West
NW = North West
NE = North East
IR = Indian Reserve

Title/Objective	Project Manager/Cooperator Location or Region	Funding Agency	Funding 1985-86
CROPS			
Winter Wheat Management • determine what method of seeding and fertilizer placement is best in this crop area	K. Pederson P. Eberle, Davin SE	ADF	361
Top-dressing Nitrogen on Winter Wheat • compare various rates of nitrogen top-dressed on a summerfallow field of winter wheat and an adjacent stubble field of winter wheat	J. Donovan V. Wilkins, Shaunavon SW	ADF	561
Winter Wheat Fertility (regional project) • determine the response of winter wheat to early spring application of broadcast ammonium nitrate, broadcast urea, dribble applied and spray applied urea-ammonium nitrate	A. Anderson J. Law, Govan South East Regional Council L. Beanjot, Langbank SE	ADF	569
Nitrogen on Winter Wheat • compare yield results from various sources of nitrogen, spring applied to winter wheat	K. Beaulieu D. Morin, Hudson Bay B. Rowan, Carragana NE	ADF	203
Winter Wheat Fertility • demonstrate the response of winter wheat to various rates of combinations of nitrogen and phosphate fertilizer	B. Hansen E. Fischer, Benson SE	ADF	218
Winter Wheat Nitrogen Response • demonstrate the yield increases that can be achieved through the use of nitrogen fertilizer	L. Lee K. Stacey, Nipawin A. Tebbutt, Nipawin NE	ADF	1,015
Winter Wheat Fertilizer Demonstration • demonstrate and evaluate the effects of spring application of recommended rates of nitrogen on winter wheat	W. Vanin M. & E. Doetzel, Preeceville EC	ADF	456
Winter Wheat Fertilization • demonstrate proper fertilization of winter wheat to obtain maximum yields	E. Johnson D. Kirkland, Wilkie NW	ADF	239
Liquid vs Dry Nitrogen on Winter Wheat • compare yields of winter wheat using equal amounts of dry and liquid nitrogen	J. Hanson L. Tremblay, Courval SW	ADF	390
Winter Wheat Fertilization • determine yield response of winter wheat to varying amounts of nitrogen fertilizer	E. Tanner District Board #26, Tisdale NE	ADF	134
Fertilizer on Winter Wheat • compare yields of winter wheat with varying amounts of nitrogen	J. Hanson D. Pavier, Mortlach SW	ADF	450

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Title/Objective	Project Manager/Cooperator Location or Region	Funding Agency	Funding 1985-86
CROPS			
Winter Wheat — Wild Barley Control & Fertilizer • control yellow foxtail in a zero till site; determine if one operation before seeding of winter wheat will increase winter kill	W. Kehler W. Leduc, Glentworth SW	ADF	400
Nitrogen Fertilizer on Winter Wheat • compare the effectiveness of urea and ammonia nitrate fertilizers when spring broadcast on winter wheat	L. Reeve G. Wolitski, Wishart EC	ADF	250
Fertilizing Winter Wheat • demonstrate that winter wheat will respond to fertilizer in dry conditions	L. Moats L. Wallace, Tyner WC	ADF	310
Fungicides on Winter Wheat • evaluate several non-licensed fungicides in the control of rust, tanspot and septoria glume blotch in winter wheat	J. Pollock J.S. Harrison, Moosomin SE	ADF	1,078
Winter Wheat — Barley Intercropping • demonstrate the potential for intercropping winter wheat and barley	L. Gutek M. Kiland, Hendon EC	ADF	400
Winter Wheat Seeded with a Noble Hoe Drill • assess the yield potential of winter wheat on a light texture soil when seeding into standing stubble with Noble hoe drill	F.P. Howell J. & M. Buswell, Borden NW	ADF	550
Canola Survey Analysis • analyze canola management practices as collected by a survey completed in 1983	E. Tanner District Board #26, Tisdale NE	ADF	7,200
OAC Triton Compared to Westar Canola • demonstrate the yield potential of OAC Triton in comparison with Westar Canola where winter annuals are a problem	F.P. Howell R.K. Gossen, Hepburn NW	ADF	166
Direct Stubble Seeding of Canola • compare direct stubble seeding of canola with a conventional seeding method	J. Pollock D. Smart, Moosomin SE	ADF	817
Winter Rapeseed • demonstrate the suitability of winter rapeseed for production in North East Saskatchewan	K. Beaulieu District Board #25, Hudson Bay NE	ADF	1,230
Canola — Sulphur and Potash • to determine the response of canola to potash and sulphur applied on stubble where these nutrients are near border-line levels	L. Gutek E. Scott, Rose Valley EC	ADF	494
Canola Fertilizer Demonstration • demonstrate the yield response of canola to fertilizer applied at rates recommended for maximum economic yield	W. Vanin M. Kostichuk, Insinger EC	ADF	508

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Title/Objective	Project Manager/Cooperator Location or Region	Funding Agency	Funding 1985-86
CROPS			
Canola Fertilization Demonstration • demonstrate the yield response from applying recommended rates of phosphate and nitrogen on canola grown on summerfallow	W. Vanin M. & E. Doetzel, Preeceville EC	ADF	448
Deep Banding Phosphorus and Sulfur for Canola • improve canola yields by deep banding phosphorus and sulfur prior to seeding	K. Beaulieu District Board #25, Hudson Bay NE	ADF	375
Chemical Control of Quack Grass and Canada Thistle in Canola Crop • incorporating canola into a cropping program for in-crop control of quack grass and Canada thistle	D. Simmons R. Heiggie, Leross EC	ADF	130
Companion Cropping — Canola and Peas • evaluate potential of cropping canola and peas in comparison with peas alone	L. Gutek R. Petersen, Rose Valley EC	ADF	548
Intensive Cereal Management • demonstrate the yield increase and reduction in lodging that can be achieved with Johnston Barley through the use of growth regulators and increased fertilizer rates	L. Lee T. Alton, Carrot River NE	ADF	442
Intensive Cereal Production (HY320) • demonstrate the value of using intensive cereal management on HY320 in comparison to normal management treatment	B. Swanson H. Gjesdal, Birch Hills NE	ADF	100
Johnston Barley • study the yield potential of Johnston barley under low and high fertility conditions	L. Gutek E. Bjerland, Rose Valley EC	ADF	314
Johnston Barley — Minimum vs. Maximum Inputs • demonstrate the yield potential of a high yielding feed barley under intensive management; determine economics of using this technology	T. Boyle L. Christopherson, Weldon NE	ADF	1,670
Fertilizer on Rye • compare rates of nitrogen fertilizer on rye	J. Hanson W.G. Street, Stony Beach SW	ADF	450
Variety Demonstration • demonstrate the production of HY320 and compare it to Columbus	L. Moats R. Anderson, Rosetown WC	ADF	175

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Title/Objective	Project Manager/Cooperator Location or Region	Funding Agency	Funding 1985-86
CROPS			
Durum Compared to Spring Rye • demonstrate whether or not durum wheat can be grown successfully on sandy soil suitable for spring rye in the Black Soil Zone	F.P. Howell F. Odnokon, Blaine Lake NW	ADF	80
Triticale on Sandy Soils • compare triticale yields with barley yields on sandy textured soil	E. Johnson M. Cooper, Unity NW	ADF	50
Stubble Fertilizer Demonstration • demonstrate and evaluate recommended fertilizer rates for spring wheat production on stubble	W. Vanin G. Kitchen, Canora EC	ADF	857
Greenfeed Trials • compare greenfeed yield of oats to barley (border dyke irrigation) seeded into land worked with a molboard plough and land worked with a breaking disc	J. Donovan L. Grant, Val Marie SW	ADF	248
Nitrogen Fixing Capacity of Lentils • demonstrate the benefits of incorporating lentils into a cropping program and the importance of inoculation	D. Simmons D. Bates, Abernethy EC	ADF	184
Nitrogen Fixing Capacity of Lentils • demonstrate the benefit of incorporating lentils into a cropping program as well as the importance of innoculation	D. Simmons A. Petrichuk, Ituna EC	ADF	24
Nitrogen Fertilizer Response and Legume Rotation • demonstrate N response on stubble crop through N test strips and the reduction of N requirements by using red clover	L.J. Lee L.D. Ealey, Choiceland NE	ADF	84
Fertilizing Lentils • demonstrate that fertilizing lentils with high rates of nitrogen and phosphorus is an economically viable practice	L. Moats K. Allport, Sanctuary WC	ADF	580
Pulse Cereal Rotational Study • to evaluate economic returns and crop compatability of pulse crops such as lentils and peas grown in rotation with wheat	M. Ayars D. Mercer, Lemburg EC	ADF	210
Wild Rice Planting • test viability of the lake for wild rice production; map areas on the lake where depth may allow economic rice production in Nut Lake	G. Krause Nut Lake Reserve Saskatoon District IR	ADF	875
Seeding New Crop Demonstration (Wild Rice) • promot wild rice production as a new crop in areas that have not yet been tried	C. Laforge Montreal Lake Band, Black Lake Bank, Lac La Ronge Band and Pelican Narrows Band IR	ADF	3,500

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CROPS			
Alfalfa Seed Production Test Plot • establish an alfalfa plot using recommended practices; use leaf cutter bees along with the plot as an essential part of the production of alfalfa seed	G. Krause M. Bear, Birch Hills IR	ADF	3,058
Alfalfa Fertility Study[1] • demonstrate the response of alfalfa to fertilizer on a gray wood soil	L. Gutek L. Luchiniscki, Kelvington EC	ADF	312
Alfalfa Fertilization • increase the yield and extend productive life of alfalfa through fertilizer applications and good management practices	W. Vanin B. Dashney, Sheho EC	ADF	758
Sweet Clover Project • measure the effectiveness of clover as a source of nitrogen fertilizer and compare the effect that types of clover, tillage practices, etc. have on soil fertility and moisture	M. Ayars O. Olson, Spy Hill EC	ADF	120
Demonstration Orchard • evaluate the adaptation of various fruit tree varieties for production in the area	L. Lee D. Scott, Garrick NE	ADF	573
Demonstration Orchard • plant different varieties of fruit trees to determine and compare the various growth habits, size, amount and quality of fruit and bearing patterns, time of bloom, time of harvest and storage ability	W. Vanin P. Olynyk, Yorkton EC	ADF	760
Demonstration Orchard • determine and compare fruit varieties for various growth habits, size, amount and quality of fruit, bearing patterns, time of bloom, time of harvest and storage ability	D. Domres G. & B. Lerat, Broadview IR	ADF	261
Demonstration Orchard • evaluate the adaptation of various fruit tree varieties for local production	H. Lang W. Ries, Humboldt NE	ADF	262
Demonstration Orchard • demonstrate the local adaptability of several varieties of fruit trees and shrubs	K. Beaulieu District Board #25, Hudson Bay NE	ADF	542
Demonstration Orchard • evaluate adaptation of various fruit tree varieties for local production	L. Lee S. Zadorozny, Nipawin NE	ADF	384
Trial Orchard • determine suitability of newer fruit varieties for home gardeners	B. Hurd M. Dyck, Hanley WC	ADF	163

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CROPS			
Onion Lake Market Garden • demonstrate innovative techniques and basic gardening skills to students interested in gardening and marketing their produce	D. Whitehead M. Carter, Onion Lake IR	ADF	296
Quackgrass Control in Market Garden • demonstrate effective use of glyphosphate (Roundup) for control of quackgrass in a market garden	D. Domres C. Papaquash, Norquay IR	ADF	765
Management of Native Blueberry Stands • increase production in native blueberry stands by weeding, staking plots, fertilizing, soil testing	L. Stalwick Shellbrook Agency SIAP Board Prince Albert SIAP Board IR	ADF	100
Control of Field Bindweed • compare the effectiveness of Roundup and a tank mix to Banvel and 2,4-D to control bindweed. Herbicides Embutox and Tordon 202C were also compared	K.E. Pederson B.J. Brown, Climax SW	ADF	145
Urea and Treflan • evaluate the use of urea as a carrier for the application of treflan when applied on stubble	L. Gutek A. Marshall, Quill Lake EC	ADF	394
Yield Testing • provide a yield sampling service for farmers involved in their own experimenting	M. Buchinski District #4, Shaunavon SW	ADF	151
Straight Combining vs Swathing • determine the per bushel cost of electricity consumed in a natural air grain system in the Dark Brown Soil Zone	P.P. Shukin G.J. & M. Denis St. Denis WC	ADF	300
Yield Sample Threshing • yield sample threshing service agreement	P. Gerwing Swift Current Agricultural Exhibition Association SW	ADF	14
Crop Variety Comparison • compare crop varieties and assess yields	B. Rugg J. Andreas, Abbey R. Trautwein, Leader SW	ADF	200
Pasture Brush Control • demonstrate a method of reducing competition by shrubbery encroaching on grazing land	D. Whitehead Poundmaker Band North Battleford District IR	ADF	832

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CROPS			
Brush Control • demonstrate recommended herbicide treatments for brush control and evaluate the cluster sprayer as a herbicide applicator	B. Hansen B. Peckover, Lampman SE	ADF	890
Brush Control in Native Pastures • demonstrate control of brush in native pastures	L. Koturbash T. Baumgartner, Indian Head T. Whalen, T. Warnyca SE	ADF	1,277
Extended Crop Rotation and Minimum Tillage • extending crop rotations on Haverhill loam using lentils, durum wheat, mustard and sweet clover	K.E. Pedersen R. Rabaey, Shaunavon SW	ADF	654
Extended Rotation • demonstrate response to varying fertilizer rate on stubble, economic feasibility of fertilizer use and the advantages and disadvantages of extended crop rotation	P.W. Petersen E. Maystrowich, Yorkton EC	ADF	1,293
Shelterbelt Water Conservation Evaluation • determine effect of 10-year old Colorado spruce on yield in adjacent field; determine effect of shelterbelts on snow distribution and moisture content; determine how yields at increasing distance from shelterbelts depend on soil moisture	L. Koturbash G. Willerth, Indian Head SE	ADF	594
Canada Thistle Control • demonstrate thistle control methods	L. Koturbash K. Kattler, Indian Head SE	ADF	462
Late Summer Spraying Canada Thistle • assess effectiveness of spraying Canada thistle weeds in late summer during summerfallow year using Banvel LH	D. Domres G.D. Lerat, Broadview IR	ADF	1,050
Annual Forage Crop Production • compare the production and quality of annual forage crops	E. Moats G. & G. Alexander Goodwater SE	ADF	1,325
Effect of Cutting Date on Forage quality and Yield • demonstrate the optimum time for cutting forages in order to obtain maximum quality	E. Johnson District Board #30, Unity NW	ADF	356
Fairlight Forage Project • demonstrate forage production, grazing techniques and cattle management	J.R. Pollock Fairlight Forage Association SE	ADF	9,176

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CROPS			
Chemical Weed Control in Alfalfa Seed Production • demonstrate and evaluate the weed control achieved through use of various chemicals on alfalfa grown for seed production and to determine the effect on yield	E. Tanner Alfalfa Weed Management Association, Zenon Park NE	ADF	1,513
Quack Grass & Foxtail Barley Project • demonstrate and compare herbicidal control of quack grass and foxtail in forages and oilseeds	M. Ayars C. Gelowitz, Grayson EC	ADF	691
Overwintering Ability and Yield Potential of Second vs. First Cut Spring Flood Alfalfa • determine the worthiness of not taking a second cut from spring alfalfa so as to ensure growth of a snow trap	D. Tumbach K. Moore, Maple Creek SW	ADF	495
Norgold Sweet Clover Demonstration • demonstrate and evaluate the suitability of low coumarin Norgold sweetclover for feed production and soil improvement	W. Vanin D. Andreas, Sheho EC	ADF	404
Forage Fertilizer • demonstrate the response of pasture or hayfields to additions of nitrogen and phosphorus fertilizer	L. Lee T. Rudnicki, Shipman NE	ADF	50
Forage Fertilizer • measure the increase in forage production in second year following application of a high rate of fertilizer	E. Tanner District Board #26, Tisdale NE	ADF	150
Forage Fertilizer • demonstrate the response of pasture or hay fields to additions of nitrogen and phosphorus fertilizer	D. England E. Pelletier, Duck Lake NE	ADF	100
North Eastern Region Forage Fertilization • measure the increase in forage production following application of a high rate of fertilizer	T. Boyle H.J. Begrand, St. Louis NE	ADF	50
Fababeans Silage • evaluate the potential for fababeans as a silage crop and value in rotation for winter wheat production	L. Gutek R. Mennie, Kelvington EC	ADF	302
Corn Silage Demonstration • compare yield, quality and cost of production of traditional silage crops with six varieties of silage corn	S.D. Adam M. Royle, Foam Lake EC	ADF	3,430

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CROPS			
Leafy Spurge Control in Pastures • establish a cost-effective means of controlling leafy spurge in the community pasture; reclaim some of the grass area that is severely infested	D. Domres Sakimay Community Pasture Yorkton District IR	ADF	90
Calder-Togo Pasture-Forage Nutrition • determine if pasture grass provides adequate mineral supply for optimum production	P.W. Preston Calder-Togo Community Pasture Patrons Advisory Committee, Langenburg EC	ADF	300
Pasture Management • demonstrate pasture manaement techniques combining recommended varieties, fertilizing and rotational grazing to increase livestock carrying capacity and forage yields	H. Lang R. Bader, Watson NE	ADF	1,259
Backflood Irrigation • experiment with management practices to solve existing weed and disease problems and facilitate increased hay production in the area	K. Pedersen J. Schuurmans, Craven SE	ADF	140
Tram Lining System • establish and demonstrate the use of a tram line system for spraying herbicides, fertilizer and fungicides on wheat	L. Gutek I. Boyes, Kelvington EC	ADF	245
Weigh Wagon • evaluate the usefulness of a weigh wagon in taking samples from projects	D. Shortt South East Regional Council Weyburn SE	ADF	1,900
Construction of Scale • construct a portable, self-unloading hopper grain scale to be used for determining grain yields on projects in East Central Saskatchewan	W. Vanin District #19 Agricultural Extension Board, Canora EC	ADF	2,000
SOILS			
Saline Soil Improvement • increase productivity of saline soil by establishing a forage crop underseeded with cover crops	D. Tumbach G. Wasilow, Maple Creek SW	ADF	431
Salinity Project • saline area reclamation around sloughs and along highway and grid roads	M. Ayars C. Gelowitz, Grayson EC	ADF	353

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SOILS			
Saline Soil Management • demonstrate that saline soils can be effectively managed by producing perennial forages; show that severely saline areas can produce higher returns if forages are substituted for cereal grains	L. Moats R. MacDonald, Elrose WC	ADF	631
Soil Salinity Project • demonstrate that saline soils can be productive if seeded to forages; demonstrate which forages are most suitable to this type of soil problem	K. LePoudre D. Greene, Davidson WC	ADF	415
Salinity Reclamation and Tile Drainage • reclaim saline land by using drainage tiles in conjunction with irrigation	M. Ayars D. Sefton, Broadview EC	ADF	346
Salinity-Fertilizer Trial • halt the spread of salinity by using continuous cropping; use of fertilizers required to maintain crop rotation	W. Kehler E. Brisebois, Kincaid SW	ADF	190
Salinity Drainage • drain a large area of slough and test the salinity level	J. Pollock Dixon Brothers, Maryfield SE	ADF	115
Salinity Control • monitor the change of salinity in saline soil using various long term crop rotations	B.R. Doig J. Robson, Jensen EC	ADF	453
Management of Moderately Saline Soil • demonstrate how to improve moderately saline soil by using forage cropping	L. Stalwick K. Thomas, Leoville IR	ADF	1,045
Soil Salinity Management • demonstrate the management of salt affected soils using forage production	E. Moats R. Lawrence, Weyburn SE	ADF	883
Grassing of Saline Soil • demonstrate the value of saline tolerant forages over native grasses	B. Swanson R. Gauthier, Duck Lake NE	ADF	1,161
Solonetzic Soil Demonstration • determine the effect of deep ripping and deep plowing on soils with a solonetzic classification or with a hard sub-surface layer	E. Tanner District Board #26, Tisdale NE	ADF	2,675
Salinity Management • maintain slender wheat grass and alfalfa to increase the productivity of a severely saline area	K. Pedersen B. Bruce, Lajord SW	ADF	1,119
Salinity Management • establish and maintain tall wheatgrass to increase productivity of saline areas	K. Pedersen D. & H. Leonard, Regina SE	ADF	312

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SOILS			
Alfalfa Interceptor Strips for Salinity Control • show the effect of recommended management practices for salinity, when the nature and extent of the problem is known	P.P. Shukin F. & L. Orosz, Prud'homme WC	ADF	60
Paraplowing Saline Solonetzic Soil • demonstrate the effect on crop yield by paraplowing a saline solonetzic hardpan	B. Hurd G. Jess, Hawarden WC	ADF	80
Paraplowing Solonetzic Soil • mechanically fracture a solonetzic hardpan layer in the soil to allow water movement and root penetration downwards	B. Hurd H. Jensen, Central Butte WC	ADF	400
Paraplowing Demonstration • demonstrate the effects of paraplowing on a stubble field	M. Ruszkowski D. Evans, Rosetown WC K. Freethy, Rosetown WC	ADF ADF	557 935
Conservation Farming Techniques • evaluate an innovative minimum and zero-till fertilizer and seed placement machine — CONSERVA-PAK — and generate interest in conservation farming	L. Koturbash Agricultural Extension District Board, Indian Head SE	ADF	19,473
Zero Till Demonstration • compare continuous cropping practices vs. zero till by comparing yield, studying soils and weed management	R.J. Brassard G. Blackstock, Gallivan NW	ADF	332
Minimum and Zero Till Drill Demonstrations • provide opportunity to farmers to observe and evaluate the performance of a variety of minimum and zero till drills under similar field conditions	L. Koturbash S. Psiurski, Glenavon SE	ADF	883
Zero Till of Peas into Flax Stubble • demonstrate the economy of a zero tillage system	B. Swanson E. Mickelson, Hagen NE	ADF	625
Minimum Tillage • improve cereal crop production on a saline seep area through use of continuous cereal cropping program and minimum tillage	W.O. Lee C. Anderson, Kyle WC	ADF	2,517
Continuous Cropping/Snow Management • compare the net returns received from a continuous cropping operation with that of a 50/50 cropping practice	B. Rapp H.D. Sutherland, Eston WC	ADF	738
Snow Trapping • manage snow to retain as much moisture as possible	P.P. Shukin G. & B. Boldt, Saskatoon WC	ADF	110

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SOILS			
Snow Fence • determine the benefits of snow fences to catch water for domestic water supply	B. Rugg R. Bos, Cabri SW	ADF	963
Innovative Acres • optimize cropping systems and soil management so that high productivity and high soil quality may be consistently maintained	B.R. Doig D. McArthur, Watrous EC	ADF	594
Subsoiling on Irrigated Alfalfa • increase water penetration in flood irrigated alfalfa by subsoiling using a paraplough and renovate an older stand of alfalfa by subsoiling	B. Rugg Miry Creek Water Users Association, Pennant SW	ADF	70
Conventional vs. Chemical Fallow • compare cost and yield differences on chemical fallow and tillage fallow and compare winter wheat yield differences under the systems	J.E. Graham M. Tremblay, Courval SW	ADF	500
Fertilization of Eroded Knolls • improve the yield by improving the fertility level of eroded knolls	K. LePoudre E. Neugebauer, Bethune WC	ADF	413
Fertilizing Eroded Knolls • demonstrate that yields can be improved by applying fertilizer to eroded knolls	K. LePoudre B. Siroski, Davidson WC	ADF	516
Fertilizing Eroded Knolls • demonstrate that heavy rates of phosphorus will increase production on eroded knolls	L. Moats H. Mutlow, Fiske WC	ADF	519
Fertilizer on Eroded Knolls • determine yield difference on eroded knolls when applying fertilizer at different rates	J.O. Hansen G. Steinhauer, Marquis SW	ADF	300
Potash Fertilizer Trial • evaluate yield response to potash fertilizers	S.D. Adam D. Rogers, Foam Lake EC	ADF	48
Potash Deficiency Trial • determine if application of potash would increase the level of potassium in soil enough to increase yield	S.D. Adam D. Petersen, Mozart EC	ADF	48
Seed Placed Potash (regional project) • determine the response of cereal crops to application of seed placed potash fertilizer in potassium deficient and/or fields where extended cereal rotations have increased the incidence of seedling root diseases	D. Shortt A. & C. Burke, Fairlight SE	ADF	243

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SOILS			
Stubble Crop Fertilizer Placement • determine the difference in fertilizer efficiency by comparing spring banded to seed placed nitrogen and phosphorus blends on subsequent crop yield	A. Anderson H. Keyser, Cupar SE	ADF	150
Stubble Crop Response to Various Ratings of Nitrogen • compare yield response of wheat to various rates of nitrogen	P.M. Gerwing E. Robinson, Bromhead SE	ADF	272
Nitrogen Application to Summerfallow Crops • demonstrate the benefit of incorporating nitrogen into summerfallow crops where nitrogen has been called for on soil tests	D. Simmons R. Spanier, Fort Qu'Appelle EC	ADF	178
Comparison of Banding vs Broadcasting Nitrogen Fertilizer	E. Moats, Weyburn SE	ADF	242
Fertilizer Trial • determine the economics of fertilizing a crop of winter wheat	D. Tumbach B. Baker, Tompkins SW	ADF	509
Fertilizer Response • demonstrate the residual effect on forage yield from fertilizer applied in the previous year	L. Lee G. Lidster, White Fox NE	ADF	50
Fertilizer Response Trials • gather data on fertilizer response	B. Rugg District #11, Leader SW	ADF	1,766
Phosphorus Fertilization • decrease soil fertility and crop production through use of phosphorus fertilization	K. Pedersen W. Schmidt, Lumsden SE	ADF	877
Phosphorus Fertility • determine the importance of phosphorus placement on flax production	D. Simmons G. Noble, Abernethy EC	ADF	204
Micro-nutrient Fertilizer Response • demonstrate the yield increases that can be achieved through the use of micro nutrient fertilizer rates (copper and zinc)	L. Lee, Nipawin NE	ADF	305
Green Manuring Sweet Clover • compare the nutrient value of sweet clover plow down versus hay crop removal	V.M. Matschke Muller H. Lake, Turtleford NW	ADF	188
Fababean — fallow • assess the value of fababeans as a green manure plow-down during the fallow year	L. Gutek P. Novak, Lintlaw EC	ADF	280
Border Dyke Irrigation • determine the best way to utilize irrigation on heavy clay soil	D. Tumbach W. Weiss, Maple Creek SW	ADF	200

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LIVESTOCK			
Chaff Ammoniation • demonstrate the technique of ammoniating crop residues (chaff) with the purpose of increasing livestock feed supplies	B. Rapp West Central Region Agricultural Council, Saskatoon WC	ADF	9,845
Chaff Ammoniation • demonstrate ammoniation of cereal chaff for use in a winter beef ration	M. Ruskowski, Biggar Jadoway Farms WC	ADF	878
Ammoniation of Untreated Chaff • demonstrate chaff ammoniation as a cheap feed alternative for cattle	B. Bishop D. Nagel, Mossbank SW	ADF	1,199
Ammoniation of Chaff • evalute the value of ammoniation of chaff	B. Rugg C. Schneider, Leader SW	ADF	500
Chaff Ammoniation • demonstrate the effectiveness of ammoniating wheat chaff — both the covered and uncovered technique	P.M. Gerwing D. Smith, Swift Current SW	ADF	661
Chaff Ammoniation • demonstrate the effectiveness of ammoniating wheat chaff — both the covered and uncovered techniques	P.M. Gerwing W. Sabine, Swift Current SW	ADF	929
Uncovered Ammoniation • evaluate ammoniation of chaff without covering with plastic	J. Donovan B. Tremere, Shaunavon SW	ADF	1,150
Chaff Ammoniation • assess the relative improvement of wheat chaff as a livestock feed when treated with anhydrous ammonia in a covered vs uncovered stock situation	J. Hanson D. & G. Holland, Avonlea SW	ADF	1,000
Chaff Ammoniation • demonstrate ammoniation effectiveness and do a comparison of covered and uncovered ammoniation techniques	P.M. Gerwing D. Smith, Swift Current SW	ADF	705
Chaff Ammoniation • demonstrate the process of chaff ammoniation and show how chaff can effectively reduce dependence on hay	L. Moats J. Elliott, Elrose WC	ADF	477
Ammoniation of Barley Straw • evaluate the use of anhydrous ammonia in the prevention of spoilage and mold in damp barley straw and greenfeed stored in round bales	L. Gutek P. Lysyshyn, Fosston EC	ADF	380
Straw Ammoniation • demonstrate the technique of improving feed value of straw by ammoniating with anhydrous ammonia	W. Kehler L. Karst, Scout Lake SW	ADF	582
	C. Loewen, Mankota SW	ADF	730

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LIVESTOCK			
Baled Straw Ammoniation • demonstrate benefits of ammoniating rye straw; comparison of ammoniation techniques (covered and uncovered)	P. Gerwing L. Burnett, Swift Current SW	ADF	512
Ammoniating Silage • improve the quality of silage for cattle by adding NH3 during cutting	L. Reeve T. & B. Agro, Leslie EC	ADF	500
Baled Straw Ammoniation • demonstrate benefits of ammoniating rye straw; comparison of ammoniation techniques (covered and uncovered)	P. Gerwing B. Burnett, Swift Current SW	ADF	528
Backgrounding Calves • determine the cash cost of backgrounding calves, the rate of gain following weaning, and additional labour input	F. Kebernick C. Wilson, Meadow Lake NW	ADF	153
Backgrounding Calves • determine the cash cost of backgrounding calves, the rate of gain following weaning, and additional labour input	V.M. Matschke Muller D. & D. Textor, Turtleford NW	ADF	41
Backgrounding Calves • determine the cash costs of backgrounding calves, the rate of gain following weaning and estimated feed costs and labor input	F.P. Howell D. & G. Sutherland, Borden NW	ADF	200
Economics of Early Weaning • compare the costs of gain of calves weaned early and placed on feed with another group that will remain with their dams on pasture until fall before weaning	L. Reeve Yonkman Farms, Punnichy EC	ADF	200
Estrus Sychronization of Heifers • synchronize a group of purebred heifers to group their calving date close together and to facilitate an insemination program	E. Tanner E. McCorriston, Armley NE	ADF	144
	T. Boyarchuk, Ridgedale NE	ADF	600
Synchromate-B Project • evaluate synchromate-b as an estrus synchronizing product	K. Beaulieu District Board #25, Hudson Bay NE	ADF	1,839
Reproductive Efficiency in the Beef Herd • increase the number of pregnant cows in selected herds by 5% in one year and reduce the calving period in selected herds to 45 days	J. Pollock, Moosomin SE	ADF	1,482
Range Block Mineral and Cattle Identification • demonstrate weathering ability and adequate consumption of mineral blocks and determine which tag identification system serves best	O. Mysak M. Glute, Verigan EC	ADF	2,374

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LIVESTOCK			
Intensive Grazing Management • determine whether more intensive grazing management through use of rotational grazing system can increase better utilization of the pasture and result in more weight gains per acre or a higher stocking rate in the future	D. Cubbon Beacon Hill Community Pasture Patrons, Meadow Lake NW	ADF	3,258
Range Management • demonstrate least cost and most effective method of rejuvenating native grassland, suitable forage varieties, rotational grazing, productivity of various forage varieties on saline soil	B. Sim B. Bateman, Kelfield WC	ADF	480
Rotational Grazing • demonstrate how rotational grazing can be used to increase carrying capacity of tame pastures	L. Koturbash M. Giroux, Montmartre SE	ADF	541
Economics of Beef Grazing on Annual Forage vs Grain Production • measure the effectiveness of copper implant on the growth rate of steers under backgrounding, pasture and feedlot finishing	D. Simmons B. Ivey, Ituna EC	ADF	2,909
Feeding Value of Pasture and Hay at Various Times of the Year • determine the feed value of seeded and native pasture	F. Howell District Board #29, Rosthern NW	ADF	756
Grasshopper Control in Pastures • control grasshopper populations along fencelines and hatch sites on a livestock pasture during the grazing season	D. Domres H. Lerat, Broadview IR	ADF	450
Feed Testing and Ration Formulation • learn about feed analysis and better cattle feeding	D. Tumbach Maple Creek 4-H Multi Club SW	ADF	14
Feed Testing and Ration Formulation • increase farmer understanding of feed testing and ration formulation	B. Rugg District #11, Leader SW	ADF	1,707
Feed Testing and Ration Formulation • to assist producers to learn about feed analysis and better cattle feeding	D. Tumbach I. Bowie Bear Creek 4-H Club, Piapot SW	ADF	306
Ration Formulation for Cattlemen • teach farmers how to balance a ration for cattle and what different types of feeds have for nutrient levels	K. LePoudre District Board #15, Davidson WC	ADF	4,521

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LIVESTOCK			
Livestock Feed Sampling Demonstration (regional project) • promote use of recommended feeding management programs	B. Fritz Yorkton EC	ADF	6,288
Alfalfa Hay Treatment • evaluate the usefulness of propionic acid (Hay Treet) as a hay preservative	B. Rugg D. Getz, Lancer SW	ADF	247
Complete Cow Care Calendar • demonstrate innovative and proven herd management practices with a well established Reserve cattleman	D. Whitehead W. Pooyak, Gallivan IR	ADF	2,000
Intensive Trout Farming in Lakes • demonstrate how to increase production of trout in stocked lakes by cage rearing and feeding	C. Laforge Big River, Sturgeon Lake Reserves and 2 lakes in north IR	ADF	9,689
	E. Sten Lakes in Meadow Lake District IR	ADF	787
HUMAN RESOURCES			
Farm Record/Filing System for Farmers • encourage maintaining good farm records for Indian farmers; develop a simple farm filing system where documents and bills can be kept for easy access	D. Domres Yorkton IR	ADF	171
Bus Tour of ADF Demonstration Sites	W.N. Hurd District #16 Agricultural Extension Board, Outlook WC	ADF	150
ADF Demonstration Tour	R. Heinrich District #15 Agricultural Extension Board, Davidson WC	ADF	72
Crop Production Tour	District #42 Agricultural Extension Board L. Gutek, Kelvington EC	ADF	150
Soil Salinity Tour	District #13 Agricultural Extension Board M. Ayars, Melville EC	ADF	150
ADF Demonstration Tour	District #30 Agricultural Extension Board E. Johnson, Unity NW	ADF	150

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HUMAN RESOURCES			
ADF Demonstration Tour	District #25 Agricultural Extension Board B. Swanson, Hudson Bay NE	ADF	150
Winter Wheat Project Tour	F.P. Howell District Board #29, Rosthern NW	ADF	150
Ammoniation of Hay/Straw • resource person at field day	J. Kernan Sask Research Council, Saskatoon SE	ADF	252

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Research and Development Project Summaries

Title/Objective	Project Manager/ Cooperator/Institution	Funding Agency/ Project Length	Funding 1985-86
CROPS			
Winter Wheat Development • work on cold hardiness, physiology, breeding and agronomy	D.B. Fowler L.V. Gusta University of Saskatchewan	ADF multiple years	108,665
Tillage Practices • decrease the number of tillage operations required in a normal cropping sequence while maintaining yields	R.K. Foster H.M. Austenson University of Saskatchewan	ADF multiple years	69,614
Weed Control • develop weed control methods for cereal and special crops and develop and evaluate herbicide delivery technology	B. Drew R. Ashford F. Holm University of Saskatchewan	ADF multiple years	103,571
Spring Wheat Breeding • breeding programs in hard red winter wheat, medium quality spring wheat, durum wheat and soft white spring wheat	R.J. Baker G.R. Hughes D.R. Knott R.S. Bhatty F. Holm University of Saskatchewan	ADF multiple years	160,731
Barley and Oat Breeding • produce improved two and six row barley varieties for feed, and malting and oat varieties with thin hulls, plump seeds, high test weight, high yields and adaptation to non-rust areas	B.G. Rossnagel B.L. Harvey R.S. Bhatty F. Holm University of Saskatchewan	ADF multiple years	128,471
Flax and Special Crops • develop high yielding and high quality cultivars of flax, fababeans, peas, lentils and other special crops	A.E. Slinkard G.G. Rowland R.S. Bhatty F. Holm University of Saskatchewan	ADF multiple years	173,184
Genetics • work on cytogenetics, population genetics and crop improvement using plant tissue culture for genetic manipulations	A. McHughen S. Jana G. Scoles University of Saskatchewan	ADF multiple years	104,701
Physiology of Salt Tolerance in Crop Plants • why are some plants more salt tolerant than others	B.L. Harvey University of Saskatchewan	ERDA four years	25,000
Acarine Mite and Honeybee Overwintering • will the Acarine mite that has affected honeybees in the USA overwinter in Sask	J. Gruszka D. Peer Sask Beekeepers Assoc	ERDA four years	36,800

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CROPS			
Horticulture Development • develop cultures for Sask and enhance horticulture production in protected environments	C. Stushnoff University of Saskatchewan	ERDA four years	165,000
Potato Starch • yield and quality trials of potato varieties grown for starch	C. Stushnoff Sask Vegetable Marketing Commission	ERDA two years	5,915
Variable Rate Fertilizer • evaluate a system of testing soil, mapping and applying a variable rate of fertilizer depending upon the requirements	B. Bens Agro-Tech	ERDA two years	20,000
Selection and Evaluation of Improved High Yielding Spring Wheat with Soft White and Triple M Qualities • support for breeding work	L. Song Sask Wheat Pool	ERDA three years	20,000
MCPB Tolerant Lentils • develop a lentil variety resistant to MCPB herbicide	A. Slinkard Sask Pulse Growers Assoc	ERDA three years	2,500
Canola Potential in Saskatchewan • demonstrate current and new technology to increase average yields by 25% in 1989	E. Bendig Canola Growers Assoc	ERDA four years	171,558
Minimum and Zero Tillage • what are the economics of minimum & zero tillage	H. Furtan University of Saskatchewan	ERDA one year	54,600
Natural Herbicides and Growth Inhibitors in Canola and Sweet Clover • can canola and sweet clover be used in crop rotations to control weeds	E. Coxworth Sask Research Council	ERDA two years	3,300
The Potential for and Practical Application of Intensive Cereal Management (ICM) Techniques • examine the potential of ICM wheat production	D. Hinz Western Canadian Wheat Growers	ERDA one year	30,000
Cooking Quality of Lentils • examine the cooking quality of lentil varieties	R.S. Bhatty Sask Pulse Growers	ERDA three years	3,650
Lentil Inoculation Study • obtain a collection of Rhizobium strains capable of fixing nitrogen with lentil	E. Bremner University of Saskatchewan	ERDA one year	2,500
Grant to POS Pilot Plant • protein, oil and starch research and development	Director POS Pilot Plant Inc	ADF multiple years	50,000
Inhibitory Effects of Green Foxtail (Setaria virdus L.) on Onion Plants • determine if green foxtail exudes a toxin inhibiting onions and find a safe herbicide against foxtail	D.H. Dabbs A.T. Ward P. Englund University of Saskatchewan	SARF one year	12,000

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CROPS			
Using Etiolation as Pre-treatment in the Propagation of 'Saskatoon' Softwood cuttings • improve the rooting of 'Saskatoon' cuttings for better establishment of the crop	S.H. Nelson University of Saskatchewan	SARF one year	4,200
Comparative Effeciency of New Low Volume Applicators for Use with Herbicides • evaluate spinning disc nozzles for herbicide application on wheat under field conditions	R. Ashford K. Hatchard R.B. McKercher W.B. Reed University of Saskatchewan	SARF one year	15,000
High Temperature Fermentation of Straw • describe bacteriological and biochemical isolate and optimize conditions of saccharification of straw and determine hydrolysis rates and products	D.E. Caldwell University of Saskatchewan	SARF one year	14,000
Biology and Control of the Wheat Blossom Midge in Saskatchewan • determine ground beetle species predators of wheat midge, their seasonal distribution and harmful effects of insecticides	J.F. Doane R.H. Elliot Agriculture Canada Research Station, Saskatoon	SARF one year	13,500
Scentless Chamomile Control • examine herbicides and identify insect pests to control scentless chamomile	G. Bowes M.A. Maw A.G. Thomas Agriculture Canada Research Station, Regina	SARF one year	9,400
Development of a Bleaching Resistant, Green Cotyledon Dry Pea • develop such a pea cultivar adapted to Saskatchewan	A.E. Slinkard R. Morrall S. Alikhan University of Saskatchewan	SARF one year	11,700
Fertilizer Requirements of Grazed, Seeded Grass Pastures and the Effects on Nitrogen and Production of Beef Cattle and Subsequent Performance on Winter Feed	R.D.H. Cohen University of Saskatchewan	SARF one year	30,000
A Re-evaluation of Seed Treatments for Pulse Crops • reassess the value of fungicidal seed treatment and assess new compounds	R. Morrall University of Saskatchewan	SARF one year	9,400
Renovation of Pastures by Direct Seeding • find an effective method of introducing alfalfa into native rangeland and compare seed drills and renovation methods based on direct seeding of cultivated forage crops	J. Waddington N. Holt T. Lawrence Agriculture Canada Research Station, Swift Current	SARF one year	15,000
Vegetable Varietal Trial • determine vegetable varieties best suited to commerical production in Saskatchewan in terms of yield and quality	C.O. Green Prairie Produce Ltd, Outlook	SARF one year	4,700

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CROPS			
The Effect of Growth Regulators on Winter Survival, Lodging and Yield of Norstar Winter Wheat and Musketeer Fall Rye	L.V. Gusta H.M. Austenson University of Saskatchewan	SARF one year	15,000
Target and Penetration of Aerially Applied Insecticide Spray for Wheat Midge Control • study the deposition of insecticide droplets on target surfaces and determine the most efficient method of spray application	K. Yoshida K. Wallace Sask Research Council	SARF one year	12,000
Farm Input Prices • survey to establish the level and viability of farm input prices among products and locations	S. Kulshreshtha University of Saskatchewan	Sask Agriculture one year	75,000
Analysis and Evaluation of Product Specific Registration (PSR) • analyze and evaluate PSR	B. Isman Western Canadian Wheat Growers Association	Sask Agriculture one year	10,000
World Market Opportunities • a study on the future world market opportunities for Saskatchewan wheat	H. Furtan University of Saskatchewan	Sask Agriculture two years	20,000
Pulse and Special Crops • research and analyze the costs and returns for lentils, peas and mustard seed	C. Hale Pulse Growers Association	Sask Agriculture one year	6,200
Leafy Spurge Bio-Control • collect, study and screen potential bio-control agents of leafy spurge	P. Harris Agriculture Canada Research Station, Regina	Sask Agriculture one year	6,000
Alternative Forage Crops • examine alternative forage crops under both irrigation and northern farming conditions	B. Machin H. Moenning Sask Agriculture	Sask Agriculture multiple years	142,000
SOILS			
Cropping Saline Soils • establish reclamation procedures and proceed with monitoring two sites during the summer	J. Peters University of Saskatchewan	ADF	12,719
Water Management in Soil • work on water management in soil over the winter period and experiments on tillage practices specifically deep ripping	D. Gray University of Saskatchewan	ADF one year	15,000
Soil Inventory and Research in Southeastern Saskatchewan • inventory, research, mapping compilation and publications of data on wetlands, improvement of clay soil through deep tillage, soil salinity characteristics	H.B. Stonehouse L.M. Kozak University of Saskatchewan	ADF multiple years	21,910

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SOILS			
Inventory and Research — Northern Soils • mapping and report compilation, editing and publications	J.G. Ellis D.W. Anderson University of Saskatchewan	ADF multiple years	23,225
Soil Correlation and Mapping Research • develop improved methods of soil classification and interpretation, investigate the composition of clay soil and develop proposal for improved soil classification	D.F. Acton University of Saskatchewan	ADF multiple years	73,765
Innovative Farming Systems • maximize productivity and maintain high soil quality to water efficient farming practices	E.H. Halstead E. de Jong University of Saskatchewan	ADF multiple years	178,337
Long Term Effects of Cultivation • monitor changes in soil properties, particularly organic matter, nutrients and soil structure on newly broken land at Termuende Farm	J.R. Bettany D.W. Anderson University of Saskatchewan	ADF multiple years	45,130
Nitrogen Studies • maximize productivity and maintain high soil quality	E. de Jong University of Saskatchewan	ADF multiple years	51,929
Salinity Studies • reclamation projects at Wilkie, Goodale Farm, Langham and Francis, Sask	L. Henry University of Saskatchewan	ADF multiple years	140,000
Properties and Distribution of Saline Soils • develop a regional framework for saline investigations, develop a long-term monitoring network and improve methods for inventory of saline soils	J. Stewart University of Saskatchewan	ADF multiple years	18,480
Evaluation of Agricultural Land and Interpretating Soil Maps for Producers • complete production of broad interpretive maps and computers	G.A. Padbury University of Saskatchewan	ADF multiple years	17,835
Inventory and Assessment of Acidity and Erodability of West Central Soils • continue preparing soil inventories on the Battlefords NTS sheet and extend northward to Tsp 48	H.P.W. Rostad W.D. Eilers A.J. Anderson H. deGooijer University of Saskatchewan	ADF multiple years	55,335
Soil Fertility — Sulphur and Micronutrients • investigate sulphur and micronutrients in grey soils	D. Tomasiewicz Sask Soil Test Lab	ERDA four years	25,000
Fertilizer Placement • soil conservation through extended crop rotations	J. Harapiak Western Coop Fertilizers Ltd.	ERDA one year	15,000
East Central Extended Crop Rotations and Conservation Tillage • conservation cropping and tillage	B. Kennedy Hoechst Canada Ltd.	ERDA three years	50,000

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SOILS			
Soil Salinity Research • research in ground water movement	L. Henry University of Saskatchewan	ERDA four years	250,000
Soil Survey • soil conservation mapping	D. Acton University of Saskatchewan	ERDA four years	150,000
Mineralogy, Morphology and Dynamics of Salts in Agricultural Soils • identify minerals and their associates and investigate the origins of salts to provide information for saline soil reclamation	A.R. Mermut R.J. St. Arnaud L. Henry University of Saskatchewan	SARF one year	20,000
Use of Leonardite for Soil Improvement • to study the effects of leonardite on forage plants under field conditions	Z. Abouguendia R. Godwin Sask Research Council	SARF one year	10,000
The Determination of S. Triazine Levels in Soil by Instrumental Analysis and Bioassay • determine whether an inexpensive bioassay procedure is adequate for determining S. Triazine levels	R.B. McKercher R. Ashford Rudiger, Kotzian University of Saskatchewan	SARF one year	20,000
Groundwater Irrigation • assess the impact of groundwater irrigation on the aquifer, saline soil and water quality	J.A. Gilles C. Borsheim, Watrous A. Regeher, Donavon University of Saskatchewan	SARF one year	11,000
LIVESTOCK			
Bioinsecticides • develop biological methods for the control of grasshoppers	G.G. Khachatourians University of Saskatchewan	ADF multiple years	90,622
Evaluation of Poultry Ration Ingredients • evaluate barley in poultry diets and develop a practical B-glucanase source for supplementing poultry diets	H. Classen G.L. Campbell B. Rossnagel G. Wassink R. Kuralak University of Saskatchewan	ADF multiple years	25,000
Weanling Feed Formulas and Physical Properties of the Diet (Swine) • examine factors which can improve the feed intake of newly born pigs and evaluate oat groats and compare pigs weaned into litter groups or into weight groups	G.I. Christison N. Lewis University of Saskatchewan	ADF multiple years	23,500
Growth Hormone Studies • deal with adjuvants, long term carriers and identification of optimal dose on response relationship	B. Laarveld University of Saskatchewan	ADF multiple years	25,000

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LIVESTOCK			
The effects of Treatment of Rye on Nutritive Value for Pigs • study the effects of pentosan digesting enzymes on the digestibility of rye in pig rations	P.A. Thacker University of Saskatchewan	ADF multiple years	10,000
Reproduction Performance of Sows • determine if the fertility of frozen semen can be improved by an addition of relaxin hormone	P.A. Thacker University of Saskatchewan	ADF multiple years	27,500
Productivity of Sows • investigate the possible role of Leutinizing Hormone-Releasing Hormone in improved conception rates and litter size	P.A. Thacker University of Saskatchewan	ADF multiple years	15,000
Improved Bovine Reproduction • control and manipulate hormones involved in ova production to improve calving rates	T.D. Carruthers University of Saskatchewan	ADF multiple years	13,500
Swine Health Management • investigate a number of areas of health monitoring and disease control	C. Rhodes University of Saskatchewan	ADF multiple years	13,000
Swine Barn Environment • investigate if summer temperature affects productivity of grower-finisher pigs and develop a device for on-farm measurement of feed consumption	G.I. Christison University of Saskatchewan	ADF multiple years	13,500
Availability of Biotin for Sows • see if higher levels of supplemental biotin during the growth period would improve growth and development of foot epidermis	R. Misir University of Saskatchewan	ADF multiple years	30,750
Grain and Forage Utilization • determine optimum levels of nitrogen fertilization for renovating old grass pastures and their effects on animal performance, evaluate the response of sweet clover and barley to nitrogen fertilizer, evaluate these silages for overwintering cow herds and evaluation of ammoniated corn and barley silage	D.A. Christensen R. Cohen H.H. Nicholson University of Saskatchewan	ADF multiple years	67,500
Trace Mineral Metabolism and Nutrition • determine the effects of high sulphate water and feed source on copper level on the performance of brood cows, and trace mineral content of cattle tissues	D.A. Christensen R. Gooneratne B. Laarveld M. Smart R. Cohen University of Saskatchewan	ADF multiple years	45,000
Grant to VIDO • study of infectious diseases	S.D. Acres VIDO	ADF one year	300,000
Book on "Toxicology and You" • publish a book on toxicology in agriculture	B. Schafer University of Saskatchewan	ADF one year	38,000

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LIVESTOCK			
Effect of Roundup and Tordon on Mice • evaluate the effect on these herbicides on reproductive function and embryonic development in animals	B.A. Blakley University of Saskatchewan	ADF one year	12,000
Near Infrared Analysis of Feedstuffs • calibrate a near infrared analyzer to Sask feedstuffs	V. Racz Sask Feed Test Lab	ERDA two years	115,000
Ammoniation of Uncovered Chaff • investigate the ammoniation of chaff without covering	J. Kernan Sask Research Council	ERDA two years	6,000
Utilization of Canola Chaff for Feed • investigate the feed value of canola chaff	J. Kernan Sask Research Council	ERDA two years	7,715
Ammoniated Flax and Wheat Residues as Winter Feed for Beef Cows • can flax and wheat residues be ammoniated to form a maintenance ration	J. Kernan Flax Growers Western Canada	ERDA two years	10,000
Improving the Agronomics and Feed Value of Kochia • investigate different varieties of kochia and growing conditions related to feed value	E. Coxworth Sask Research Council	ERDA three years	25,000
Embryo Cryogenics • investigate factors affecting survival of bovine embryos during freezing	R. Mapletoft University of Saskatchewan	ERDA four years	25,000
Water Quality Improvement • improve farm water by removing sulphates	D.A. Christensen University of Saskatchewan	ERDA four years	25,000
Dairy Production and Feed Evaluation • improve dairy cattle feeding rations	D.A. Christensen University of Saskatchewan	ERDA four years	35,000
Black Fly Control • control program in rivers	C. Mulligan Sask Agriculture	ERDA multiple years	6,000
Control of Chalkbrood and Other Fungal Problems in Leafcutter Bees • increase survival of leafcutter bees	R. Herperger Sask Alfalfa Seed Producers	ERDA two years	15,000
Dairy Management, Housing and Physical Characteristics of Dairy Cattle • improve the management and efficiency of dairy herds	D.A. Christensen University of Saskatchewan	ERDA four years	40,000
Testing New Immunodulators and Adjuvants • investigate infectious diseases in food producing animals	S. Acres VIDO	ERDA four years	75,000
Productivity & Reproductive Performance in North Eastern Sask • a herd health program in R.M. #394	L. Purves R.M. #394 Hudson Bay	ERDA three years	10,000
Shipping Fever Inoculation • test a B.V.D. vaccine for effectiveness	F. Weeks Unity Vet Clinic	ERDA two years	3,000

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LIVESTOCK			
Sask Certified Preconditioned Feeder Program • provide assistance to producers to encourage preconditioning	P. Greenough Sask Veterinary Medicine Association	ERDA two years	4,500
Insecticide Treatment Station • black fly control in pastures	C. Mulligan Saskatchewan Agriculture	ERDA two years	5,090
Evaluation of Protein Status of Lactating Dairy Cows • evaluate a method for determining the adequacy of dietary protein in high-producing dairy cow diets in early lactation through milk urea content	D.A. Christensen V.J. Racz University of Saskatchewan	SARF one year	17,000
Evaluate Practical Post-Partum Nutritional and Drug Management in Controlling Breeding of Beef Cows • evaluate the inter-relationship between post-partum nutritional levels in beef cows and the use of hormones and prostagladins to regulate estrus in controlling the breeding seed	D. McCartney A. Robertson W. Cates R. Mapletoft Agriculture Canada Research Station, Melfort University of Saskatchewan	SARF one year	4,000
Electronic Identification of Livestock • help advance electronic identification in cattle for proof of ownership, disease control, herd management, and law enforcement	G.C. Zoerb J.W. McLean University of Saskatchewan	SARF one year	13,500
Abnormal Behavior of Early Weaned Piglets • determine the effect on production of ear biting, tail biting and belly nosing and study their initiative and causes	N. Lewis University of Saskatchewan	SARF one year	22,700
Swine Barn Ventilation • evaluate air distribution and pen microclimate with alternate inlet and recirculation systems, develop and evaluate an electronic air inlet controller	E.M. Barber University of Saskatchewan	SARF one year	36,000
Study of a Bleeding Disorder in Simmental Cattle • determine the incidence and mode of inheritance of platelet function defect responsible for bleeding disorder in Simmental Cattle	G.P. Searcy University of Saskatchewan	SARF one year	15,800
Dietary Enzyme Supplementation as a Method of Improving the Nutritional Value of Cereal Grains • increase nutritional value of grains with addition of enzymes	H.L. Classen G.L. Campbell R.E. Salmon Agriculture Canada Research Station Swift Current University of Saskatchewan	SARF one year	27,000

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LIVESTOCK			
Canola Press Cake as a High Energy, High Protein Animal Feed • determine the nutrient content variability of press cake, its glucosinolate content and myrosinase activity and compare them with seed and meal and estimate its feeding and economic value in relation to alternate feed sources	J.M. Bell M.O. Keith University of Saskatchewan	SARF one year	24,000
Intensification of Sheep Production • apply techniques of reproductive management for intensifying lamb production	N.C. Rawlings W.E. Howell C.S. Rhodes R.A. Shoney University of Saskatchewan	SARF one year	30,000
Grassland Management Study • undertake and carry out a survey of 600 Sask cattle producers to determine needs and priorities for departmental initiatives in research, extension and demonstration in grassland management	Tanka Research	Sask Agriculture one year	6,500
Analysis of Sharp • analysis of Sask Hog Assured Returns Program and a general review of the program	Sask Pork Producers Marketing Board	Sask Agriculture one year	5,000
Dairy Study • set up and coordinate the collection and analysis of information on the cost of production for fluid milk	Milk Control Board	Sask Agriculture one year	30,000
Raw Milk Products • undertake research in regard to the marketing and production of raw milk	EXP Consulting	Sask Agriculture one year	51,342
Dairy Research • nutrition and herd management	D.A. Christensen University of Saskatchewan	CMDF one year	54,250
Veterinary Infectious Disease Organization • respiratory research in Cattle	S. Acres VIDO	CMDF one year	50,000
Anti-Somatostatin Immunization as a Growth Promotant • develop growth promotant	B. Laarveld University of Saskatchewan	HCF one year	9,000
Epidemiological Research • field diagnostic research	O. Radostits University of Saskatchewan	HCF one year	8,000
Trace Mineral Analysis • water on copper metabolism • lab analysis on copper and selenium in cows and fetuses • copper and molybdenum in ruminants	D.A. Christensen University of Saskatchewan	HCF one year	18,000
The Hormonal Control of Estrus Research • superovulation studies in cattle	T.D. Carruthers University of Saskatchewan	HCF one year	10,250

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LIVESTOCK			
Forage Varieties Under Grazing • testing of forage varieties	S. Beacom Melfort Agricultural Society and Agriculture Canada Research Station, Melfort	HCF five years	17,560
Blackfly Control • monitor blackfly problem in Saskatchewan	D. Lehmkuhl Biosystems Consulting Ltd	HCF one year	24,000
Pasture Research • nutritional value of pastures	R. Cohen University of Saskatchewan	HCF one year	11,670
IRRIGATION			
Irrigation Projects • for on-farm irrigation development	Sask Agriculture Irrigation Branch, Outlook	ERDA one year	782,462
Saskatchewan Water Corporation Grant • for group and individual irrigation projects	Sask Water Corporation Moose Jaw	ADF one year	2,250,000
Water/Soil Compatability Guidlines for Irrigation • determine combination of soil/water suitability for development of viable irrigation projects	G. Weiterman Normac A.E.S. Ltd	Sask Agriculture one year	15,880
Irrigation Feasibility from Govan Effluent Lagoon • alternatives for disposal of effluent	G. Weiterman Normac A.E.S. Ltd	Sask Agriculture one year	12,250
Irrigation Project Soil Investigations • gathering of soil/water data for irrigation project evaluations	G. Weiterman Normac A.E.S. Ltd	Sask Agriculture one year	34,000
Irrigated Crops in South Saskatchewan River Irrigation District #1 • farmer survey of crops grown under irrigation	T. Hamlin Outlook	Sask Agriculture one year	1,500
Vegetable Production and Marketing Study • relationship between production/marketing and processing costs for irrigated vegetable production in Saskatchewan	L. Bohrson Harvest Foods Ltd Saskatoon	Sask Agriculture one year	12,600
ENGINEERING			
Infiltration Testing of Farm Shops • conduct infiltration tests on three farm shops and one farm house for heat loss calculations	M. Wrubleski M. Sulatisky Sask Agriculture and Sask Research Council	Sask Agriculture one year	1,600
Microprocessor-Based Hog Barn Environmental Control System • monitor a microprocessor-based environmental control system in a hog barn	G. Bayne Sask Agriculture	Sask Agriculture two years	4,000

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ENGINEERING			
Compressed Natural Gas (CNG) Testing • determine economic viability of CNG on Sask farms	M. Wrubleski P. Gebhardt, Sask Agriculture and Sask Research Council	ADF four years	199,240
HUMAN RESOURCES			
Economics — Top Management Model • monitor and analyze data from cooperating farms, cooperative work with Winter Wheat Project, zero tillage and develop micro-computer programs	R. Schoney E. Beaton A. Ulrich W. Furtan University of Saskatchewan	ADF multiple years	51,736
Administration of ADF • administer ADF at the University of Saskatchewan	G. Lee University of Saskatchewan	ADF one year	15,543
The Comparative Advantage of Wheat Production in Saskatchewan • develop a framework for measuring the full cost of wheat production and returns, then collect data from Sask farms for comparison with those of USA, EEC and USSR	W. Furtan University of Saskatchewan	SARF one year	15,000
Farm Business Management Pilot Project • farm management training and microcomputer use	A. Blair N.E. Regional Council	ERDA two years	116,000
Two Part Plan to Improve Information Flow to Extension Staff and Farmers With Microcomputers • course for staff and producers	D. Wiebe Wiebe Consulting	ERDA two years	23,575
Upgrading Farm Management Skills • financial management to farm business groups	L. Stavness Sask Agriculture	ERDA three years	25,386
Family Farm Skill Identification and Job Search Techniques • counselling for farm families making the transition out of Agriculture	D. Sutherland Sutherland Consulting	ERDA one year	2,000
Microcomputer Training for Sask Farmers • increase computer literacy	G. Blackmore Settler Computer Technologies	ERDA two years	1,150
Leadership Competency Improvement • sponsor part of costs for agriculture camp for 4-H members	C. Barnsley 4-H Extension University of Saskatchewan	ERDA two years	1,000
International Trade • research key issues in international trade areas and determine policy direction to obtain trade objectives	A. Schmitz Sask Agriculture	Sask Agriculture one year	43,500

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HUMAN RESOURCES			
Agriculture Impact Study • describe agriculture's role in Canada's balance of trade	D. Maley Informetrica	Sask Agriculture one year	25,032
Capital Configuration in Sask Agriculture • analyze alternative approaches to the capital configuration in Sask Agriculture	W. Gamble FarmWest Management Ltd	Sask Agriculture two years	7,250
Farm Business Analysis • conduct a survey of 525 farms as it relates to an analysis of individual farm business information	L. Stavness Saskatchewan Agriculture	Sask Agriculture one year	52,500
Farm Financial Systems and Land Transfer • provide information to Saskatchewan's agricultural industry and government policy-makers regarding issues in farm credit and land transfer policy options	D. Maley Sask Wheat Pool	Sask Agriculture multiple years	6,250
Top Management Model — Extension Version • computer software developed for use by Extension staff	D. Surminsky R. Schoney University of Sask	Sask Agriculture one year	28,500
Livestock Ventilation Analysis • computer software developed to assist engineers to design ventilation systems	Gerald Bayne Concise Services Ltd.	Sask Agriculture one year	12,200

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ADF Management Committees

1985 - 1986

Research and Development
Chairman — J. Drew
S. Kramer
H. Zilm
D. Maley
H. Fjeld
D. Sim
J. Buchan
B. Middleton
L. White
A. Sereda

Demonstrations
Chairman — H. Zilm
L. Potter
D. Wotherspoon
A. Sereda
L. White
B. Middleton
M. Mackay
J. Taylor

ADF Technical Review Committees

1985-1986

Crops
Chairman — J. Buchan
F. Townley-Smith
B. Harvey
C. Stushnoff
B. Ward

Soils
Chairman — J. Buchan
D. Flaten
W. Nicholaichuk
G. Shaw
R. Button
J. Danyluk
B. Ward
C. Campbell
L. Chambers
G. Luciuk
J. Stewart
D. Acton

Livestock
Chairman — D. Sim
D. Hepburn
M. Bell
B. Fritz
A. Theede
H. Bjorge

Irrigation
Chairman — A. Slinkard
D. Norum
S. Kulshreshtha
B. Harvey
C. Stushnoff
E. de Jong
M. Oram
Y. Jame
W. Crowle
L. Tollefson
G. Weiterman
J. Buchan
F. Kraft
T. Hamlin
B. Ireland
M. Larson

Human Resources
Chairman — D. Maley
L. Stavness
J. Graham
L. Minja
B. Bens
D. Wiebe
J. Lowe
J. Hickie
R. Koller
H. Furtan
J. Murphy

Irrigation Demonstrations
Chairman — K. Carlson
F. Kraft
D. England
L. Tollefson
P. Perrault
M. Cram
G. Gross
T. Hamlin